

Research Note

Heterobilharzia americana (Trematoda: Schistosomatidae) from White-tailed Deer (*Odocoileus virginianus*) in Southern Florida

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ABSTRACT: Nongravid females of *Heterobilharzia americana* were found in mesenteric blood vessels from 3 of 40 (7.5%) white-tailed deer (*Odocoileus virginianus*) examined at necropsy during October and November 1990 in southern Florida. All infected deer were females ranging in age from 2 to 5.5 yr. This represents the first report of this schistosome from white-tailed deer in Florida and the second report from this host in North America.

KEY WORDS: schistosome, *Heterobilharzia americana*, prevalence, white-tailed deer, *Odocoileus virginianus*, Florida.

The parasitic helminths of white-tailed deer, *Odocoileus virginianus* (Zimmermann), have been well studied, and numerous published accounts exist on their prevalence and distribution in North America (Davidson et al., 1981). There is one report of the schistosome *Heterobilharzia americana* Price, 1929, from white-tailed deer in South Carolina (Byrd et al., 1967). Herein we report information on the prevalence of *H. americana* in white-tailed deer in southern Florida.

Deer were collected by shooting at night during October and November 1990. The sample consisted of 8 bucks and 32 does of which 9 were fawns (<13 mo of age), 4 were subadults (13–24 mo), and 27 were adults (>24 mo). Ages were determined by the patterns of toothwear and replacement in the lower jaw (Severinghaus, 1949; Harlow and DeFoor, 1962). The deer originated from 5 locations in Collier County; these locations were described in detail by Atkinson et al. (1993). Carcasses were kept under refrigeration until examined at necropsy, usually within 6–8 hr of death. At necropsy, mesenteries were removed from each deer and frozen in plastic bags for later examination, at which time they were thawed and processed. Large vessels were cut open, the entire mesentery of each deer was stretched and torn by hand in a container of water, and subsequent washings from this were passed through a 100-mesh sieve to collect blood flukes. Specimens were fixed in AFA, dehydrated in an ethanol series, cleared in methyl salicylate,

stained with acetocarmine, and mounted in Permount® for microscopic study and identification. The specimens were deposited in the U.S. National Parasite Collection, Beltsville, Maryland 20705 (USNM Helm. Coll. Nos. 82830–82832).

Specimens of *Heterobilharzia americana* were recovered from 3 of the 40 deer. Infected deer originated from 2 of the 5 areas sampled (i.e., the Bear Island Unit in Big Cypress National Preserve [$n = 2$] and the Florida Panther National Wildlife Refuge [$n = 1$]). These 2 sites are adjacent and ecologically similar (Atkinson et al., 1993). Two flukes were obtained from 1 deer and 1 each from the other 2 animals; all were non-gravid females. All hosts were females and were 2, 3, and 5.5 yr of age.

This is the first report of *H. americana* from white-tailed deer in Florida and the second report of this schistosome from white-tailed deer in North America. It was previously recovered from 4 of 15 white-tailed deer from Barnwell County in South Carolina, all of which were 6 mo to 1 yr of age. In Florida, *H. americana* has been found in black bears (*Ursus americanus*), bobcats (*Felis rufus*), Florida panthers (*Felis concolor coryi*), and raccoons (*Procyon lotor*) (Forrester, 1992). The latter appears to be the most common host in Florida, and deer may be an accidental host. Although lesions due to infections of *H. americana* in raccoons have been described (Bartsch and Ward, 1976; McKown et al., 1991), nothing is known about the effects of this blood fluke on white-tailed deer.

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Research Note

Skrjabinoclava aculeata (Acuarioidea: Acuariidae) in Dunlins (*Calidris alpina*) from Both Iceland and Louisiana, U.S.A.

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ABSTRACT: *Skrjabinoclava aculeata* (Creplin, 1825) was found in 11 of 24 dunlins (*Calidris alpina hudsonia*) wintering in Louisiana. This nematode was previously reported only in dunlins from Europe (Germany) and in dunlins collected in Iceland migrating from Palaearctic and Ethiopian staging and wintering areas. This is the first report of the same species of *Skrjabinoclava* in both New and Old World waders.

KEY WORDS: *Skrjabinoclava aculeata*, Nematoda, charadriiform birds, Old and New Worlds.

Anderson and Wong (1992) recently reported mature *Skrjabinoclava aculeata* (Creplin, 1825) in the proventriculus of 68% (15/22) of dunlins (*Calidris alpina schinzii*) collected in Iceland in the spring of 1989; intensity was 12 (1–83). Larvae were not found in the birds, and it was concluded that the latter had acquired infections either on their wintering grounds in Morocco and Mauritania (Pienkowski and Dick, 1975) or on staging areas in Morecambe Bay and the Dee Estuary, Britain (Wilson, 1973; Eades, 1974), when en route to breeding areas in southwest Iceland and southeast Greenland. *Skrjabinocla-*

va aculeata was regarded as exclusively a parasite of dunlins wintering in Palaearctic and Ethiopian regions because it had never been found in the numerous ($N = 105$) specimens of *Calidris alpina pacifica* collected from the Pacific coast of North America or in any other shorebird species from North America (Wong and Anderson, 1987, 1990). However, *Skrjabinoclava bakeri* Wong and Anderson, 1987 (26%, 3.7 [1–11]), and *S. tupacincuae* Freitas and Ibanez, 1970 (16%, 3.2 [1–24]), were fairly common in Pacific dunlins along with a few *S. pusillae* Wong and Anderson, 1987 (4%, 5.0 [3–8]), and *S. myersi* Wong and Anderson, 1987 (1%, 168).

Dunlins (*Calidris alpina hudsonia*) were collected by shooting on their wintering grounds near Port Fourchon, Louisiana, U.S.A., on 20–25 January 1988. The birds were examined for proventricular worms of the genus *Skrjabinoclava*. Specimens were washed in saline and fixed in hot glycerine alcohol with 5% glycerine. The worms were cleared for study in pure glycerine